

**REMARKS**

Claims 1-21 and 23-28 are currently pending.

Claim Rejections under 35 U.S.C. §102

Generally, claims 1-21 and 23-28 stand rejected under 35 U.S.C. §102(b) as being anticipated by non-patent literature titled “ARIES: A Transaction Recovery Method Supporting Fine-Granularity Locking and Partial Rollbacks Using Write-Ahead Logging,” by C. Mohan et al., ACM Transactions on Database Systems, vol. 17, no. 1, March 1992, pages 94-162 (hereinafter referred to as “Mohan”). Reconsideration is respectfully requested.

Regarding independent claims 1, 11 and 21, the Office asserts that Mohan discloses a method for reading a changed data page which includes “marking the changed data page to indicate that the transaction log buffer has yet to be flushed to a persistent data store,” and “isolating the transaction by flushing the transaction log buffer to the persistent data store prior to the changed data page being read by a read operation separate from generating the changed data page.” In making these rejections, the Office directs the applicants’ general attention to the Abstract and sections 3, 5, 6, 7 and 10 of Mohan as support. However, the Office fails to point out, and the applicant is unable to locate, where in these sections Mohan discloses the above features of applicants’ claims 1, 11 and 21.

For example, regarding the feature of “marking the changed data page to indicate that the transaction log buffer has yet to be flushed to a persistent data store,” the Office merely cites a portion of section 3 of Mohan and otherwise generally directs the applicants’ attention to sections 3, 5, 6 and 8. However, the cited portion of Mohan merely discloses tracking the state of a page with respect to log updates by placing the Log Sequence Number (LSN) of a log record in the page\_LSN field of the updated page. This is different than “marking the changed data page to indicate that the transaction log buffer has yet to be flushed to a persistent data store.” In fact, Mohan does not address “flushing” the log buffer and in fact doesn’t appear to make any mention of the term “flush.”

Additionally, regarding the feature of “isolating the transaction by flushing the transaction log buffer to the persistent data store prior to the changed data page being read by a read operation separate from generating the changed data page,” the Office specifically cites only the first line of the Abstract of Mohan and again just generally directs the

applicants' attention to the rest of the Abstract and sections 3, 5, 6, 7 and 10. The applicants are unable to find any teaching, nor even mention, of flushing a transaction log buffer prior to a changed data page being read by a read operation separate from generating the changed data page, as claimed. The cited portion of Mohan merely states that a method is presented that "supports partial rollbacks of transactions, fine-granularity (e.g. record) locking and recovery using write-ahead logging (WAL)." Nothing in the cited passage of Mohan addresses *isolating a transaction by flushing the transaction log buffer to the data store prior to being read*. In fact, Mohan appears to teach away from the claimed step of "isolating the transaction by flushing the transaction log buffer;" specifically, Mohan uses latches and locks in contrast to the recited features of claims 1, 11 and 21. This is most apparent in the last paragraph of Section 1.3, where Mohan states:

The above facts *argue for supporting semantically rich modes of locking such as increment/decrement* which allow multiple transactions to concurrently modify even the same piece of data.

Accordingly, because at least the above features of claims 1, 11 and 21 are missing from Mohan, the applicants submit that Mohan does not anticipate those claims.

Because the foregoing features of claims 1, 11 and 21 are neither taught nor suggested by Mohan, the applicants respectfully submit that the subject matter of claims 1, 11 and 21 is patentable over Mohan. And because claims 2-10, 12-20 and 23-28 each depend from claims 1, 11 and 21 respectively, those claims also must be patentable over Mohan for at least the same reasons. Accordingly, favorable reconsideration and withdrawal of these rejections is respectfully requested.

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**PATENT**

### **CONCLUSION**

For all the foregoing reasons, the applicants respectfully submit that the present application is now in condition for allowance.

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